UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
NALVEN, ANDREW L

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/613,357	SUZUKI, MOTOYUKI
	Examiner	Art Unit	
	Andrew L. Nalven	2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *8/2/2007*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 16-25* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14 and 16-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____ .

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

1.   Claims 1-14 and 16-25 are pending.

Response to Arguments

2.   Applicant's arguments with respect to claims 1-14 and 16-25 have been

considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Oeda US PGPub 2001/0029502 in view of Church et al US Patent No. 5,794,234 and

Rhoads US PGPub 2003/0142847.

4.   With regards to claims 1, 3-4, Oeda teaches extracting data from a first volume of

a storage system, the first volume associated with a first computer system of first type,

the extracted data having a first file format and a first character set format, the storage

system being coupled to the plurality of computer systems (Oeda, paragraphs 0032-

0035, Mainframe extracts data from CKD volume, first file format is CKD), storing the

encrypted data in a shared volume of the storage system (Oeda, paragraph 0035,

Mainframe stores VSAM file to the shared volume), receiving the data from the shared

volume of the storage system at a second computer system of a second type (Oeda,

paragraphs 0032,server 300-1 reads the VSAM file/intermediate data), the first and

second computer system being of different computer systems (Oeda, paragraphs 0032,

server and Mainframe), wherein the second computer system comprises a file receiver

(Oeda, paragraph 0030, DBMS and interface for transmissions), a file format converter

(Oeda, paragraph 0035, server 300-1 converts to FBA), a character set converter

(Oeda, paragraph 0035, server 300-1 converts to VSAM TO CSV), a database loader

(Oeda, paragraph 0030, DBMS), converting the received data from the first file format to

the second file format with the file format converter, the first file format being native to

the first computer system and the second file format being native to the second

computer system (Oeda, paragraph 0035, converts file to FBA format), converting the

received data from the first character-set format to a second character set format

system with the character set converter, the first character set format being suitable for

the first computer, and the second character set format being suitable for the second

computer system (Oeda, paragraph 0035, converts VSAM to CSV file), and thereafter

loading the received data to a second volume of the storage system with the database

loader, the second volume associated with the second computer system (Oeda,

paragraph 0035, reflects data to the FBA volume 110-3). Oeda fails to teach encrypting and decrypting of extracted data and signature receiving and verification. However, Church teaches the second computer system comprising a data decryptor (Church, column 4 lines 33-50, network server decrypts), encrypting the data using a first security key (Church, column 4 lines 25-32) and decrypting the received data using a second security key that is associated with the first security key (Church, column 4 lines 45-50). Furhter, Rhoads teaches a second computer system with a signature receiver and signature checker (Rhoads, paragraph 0329, verified by signature). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize Church's encryption technique and Rhoad's signature verification technique with Oeda's database management system because it offers the advantage providing security for financial transactions (Church, column 2 lines 45-55) and ensures that pirates could not interfere with data files (Rhoads, paragraph 0329, verified by signature).

5.   With regards to claim 2, Oeda as modified teaches the first computer system being a mainframe system (Oeda, paragraph 0035, mainframe) and the second computer system being an open system (Oeda, paragraph 0035, server 300-1).

6.   Claims 5-6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oeda US PGPub 2001/0029502, Rhoads US PGPub 2003/0142847, and Church et al US Patent No. 5,794,234, as applied to claim 1 above, and in further view of Williams et al US Patent No. 5,845,283.

7.   With regards to claims 5 and 6, Oeda as modified fails to teach the first and

second character sets being either EBCDIC or ASCII formats. However, Williams

teaches teach the first and second character sets being either EBCDIC or ASCII

formats (Williams, column 4 lines 44-47, column 8 lines 60-65). At the time the

invention was made, it would have been obvious to a person of ordinary skill in the art to

utilize William's method conversion method because it offers the advantage of quickly

accommodating new business services by allowing rapid processing of new or

incompatible transaction record formats (Williams, column 4 lines 45-55).

8.   With regards to claim 12, Oeda as modified teaches the step of decrypting the

received data using a second security key being performed after the step of converting

the received data from the first file format to a second file format (Church, column 4

lines 1-61), but fails to teach the step of converting the received data from the first

character set format to a second character set format is performed after the step of

decrypting the received data using a second security key. However, Williams teaches

the step of converting the received data from the first character set format to a second

character set format is performed after the step of decrypting the received data using a

second security key (Williams '283, column 4 lines 44-47, column 8 lines 60-65). At the

time the invention was made, it would have been obvious to a person of ordinary skill in

the art to utilize William's method conversion method because it offers the advantage of

quickly accommodating new business services by allowing rapid processing of new or

incompatible transaction record formats (Williams, column 4 lines 45-55).

9.   Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Oeda US PGPub 2001/0029502, Rhoads US PGPub 2003/0142847, and Church et al

US Patent No. 5,794,234, as applied to claim 1 above, and in further view of Bruce

Schneier Applied Cryptography.

10.   With regards to claim 7, Oeda as modified fails to teach the first security key

being a public key associated with the second computer system and the second

security key being a private key associated with the second computer system.

However, Schneier teaches the first security key being a public key associated with the

second computer system and the second security key being a private key associated

with the second computer system (Schneier, pages 31-32). At the time the invention

was made, it would have been obvious to a person of ordinary skill in the art to utilize

Schneier's public key method with Oeda as modified because it offers the advantage of

providing greater security by removing the likelihood that a key will be stolen during key

negotiations (Schneier, pages 31-32).

11.   With regards to claim 8, Oeda as modified fails to teach the first security key

being a private key associated with the first computer system and the second key being

a public key associated with the first computer system. However, Schneier teaches the

first security key being a private key associated with the first computer system and the

second key being a public key associated with the first computer system (Schneier,

pages 31-32). At the time the invention was made, it would have been obvious to a

person of ordinary skill in the art to utilize Schneier's public key method with Oeda as

modified because it offers the advantage of providing greater security by removing the

likelihood that a key will be stolen during key negotiations (Schneier, pages 31-32).

12.   With regards to claim 9, Oeda as modified teaches the first and second computer

systems are coupled to the storage system via a storage area network and the storage

system includes at least one disk array unit (Oeda, paragraphs 0032-0035), but fails to

teach the first key and the second security key are common keys. However, Schneier

teaches the first key and the second key are common keys (Schneier, page 28). At the

time the invention was made, it would have been obvious to a person of ordinary skill in

the art to utilize Schneier's common key method with Oeda as modified because it

offers the advantage of providing a fast and simple encryption method that is unlikely to

be broken if the key is kept secret (Schneier, page 28).

13.   Claims 10-11, 16-18 and 23-24 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Oeda US PGPub 2001/0029502, Rhoads US PGPub 2003/0142847

and Church et al US Patent No. 5,794,234, as applied to claim 1 above, and in further

view of Tamaki et al US PGPub 2002/0059427.

14.   With regards to claims 10 and 16-18, 23-24, Oeda as modified teaches

everything described above in regards to claim 1 and further teaches storing encrypted

data (Church column 4 lines 33-45), but fails to teach storing the encrypted data in a

first volume of the storage system, the first volume being associated with the first

computer system wherein the plurality of computer systems are associated with a

plurality of different companies. However, Tamaki teaches storing the encrypted data in

a first volume of the storage system, the first volume being associated with the first

computer system wherein the plurality of computer systems are associated with a

plurality of different companies (Tamaki, paragraph 0048). At the time the invention

was made, it would have been obvious to a person of ordinary skill in the art to utilize

Tamaki's method with Oeda as modified because it offers the advantage of reducing the

cost of running a data center and providing security to individual companies (Tamaki,

paragraph 0003).

15.   With regards to claim 11, Oeda as modified teaches the shared volume is

configured to be accessed only by computer systems of a given company and the first

and second computer systems being associated with the given company (Tamaki,

paragraph 0048).

16.   Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Oeda US PGPub 2001/0029502, Rhoads US PGPub 2003/0142847, Tamaki et al US

PGPub 2002/0059427 and Church et al US Patent No. 5,794,234, as applied to claim

17 above, and in further view of Williams et al US Patent No. 5,845,283.

17.   With regards to claim 19, Oeda as modified fails to teach the third format being a

character set format of a first type and the fourth format being a character set format of

a second type. However, Williams teaches the third format being a character set format

of a first type and the fourth format being a character set format of a second type

(Williams '283, column 4 lines 44-47, column 8 lines 60-65). At the time the invention

was made, it would have been obvious to a person of ordinary skill in the art to utilize

William's method conversion method because it offers the advantage of quickly

accommodating new business services by allowing rapid processing of new or

incompatible transaction record formats (Williams, column 4 lines 45-55).

18.   With regards to claim 20, Oeda as modified teaches the step of decrypting the

received data using a second security key being performed after the step of converting

the received data from the first file format to a second file format (Church, column 4

lines 1-61) and the step of converting the received data from the first character set

format to a second character set format is performed after the step of decrypting the

received data using a second security key (Williams, column 4 lines 44-47, column 8

lines 60-65).

19.   Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Oeda US PGPub 2001/0029502, Rhoads US PGPub 2003/0142847 and Church et al

US Patent No. 5,794,234, as applied to claim 1 above, and in further view of Williams et

al US PGPub 2005/0021969 (hereafter Williams '969).

20.   With regards to claim 13, Oeda as modified fails to teach the generating,

transmission, and receiving of a digital signature. However, Williams '969 teaches

generating a digital signature of the first computer system using the extracted data

(Williams '969 paragraph 0060), transmitting the digital signature from the first computer

system to the second computer system (Williams '969 paragraph 0060), receiving the

digital signature at the second computer system (Williams '969 paragraph 0061) and

validating the received digital signature at the second computer system (Williams '969

paragraph 0061). At the time the invention was made, it would have been obvious to a

person of ordinary skill in the art to utilize William's '969 method of sending digital

signatures because it offers the advantage of providing verification that data has not

been altered (Williams 969, paragraph 0061).

21.   With regards to claim 14, Oeda as modified teaches the digital signature sent

over a link that is different from a communication link used to transfer the data from the

first computer system to the second computer system (Williams '969, paragraph 0060).

22.   Claims 13 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Church et al US Patent No. 5,794,234, Rhoads US PGPub 2003/0142847, Oeda

US PGPub 2001/0029502, and Tamaki et al US PGPub 2002/0059427, as applied to

claim 16 above, and in further view of Williams et al US PGPub 2005/0021969

(hereafter Williams '969).

23.   With regards to claim 13, Oeda as modified fails to teach the generating,

transmission, and receiving of a digital signature. However, Williams '969 teaches

generating a digital signature of the first computer system using the extracted data

(Williams '969 paragraph 0060), transmitting the digital signature from the first computer

system to the second computer system (Williams '969 paragraph 0060), receiving the

digital signature at the second computer system (Williams '969 paragraph 0061) and

validating the received digital signature at the second computer system (Williams '969

paragraph 0061). At the time the invention was made, it would have been obvious to a

person of ordinary skill in the art to utilize William's '969 method of sending digital

signatures because it offers the advantage of providing verification that data has not been altered (Williams 969, paragraph 0061).

24.   With regards to claim 21, Oeda as modified teaches the digital signature being received via a local area network and the data is received via a storage area network (Williams '969 paragraphs 0060-0061).

25.   Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oeda US PGPub 2001/0029502, Rhoads US PGPub 2003/0142847, Church et al US Patent No. 5,794,234, and Tamaki et al US PGPub 2002/0059427, as applied to claim 24 above, and in further view of Bruce Schneier Applied Cryptography.

26.   With regards to claim 25, Oeda teaches everything described above in regards to claim 1, but fails to teach the first security key being a public key associated with the second computer system and the second security key being a private key associated with the second computer system. However, Schneier teaches the first security key being a public key associated with the second computer system and the second security key being a private key associated with the second computer system (Schneier, pages 31-32). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize Schneier's public key method with Oeda as modified because it offers the advantage of providing greater security by removing the likelihood that a key will be stolen during key negotiations (Schneier, pages 31-32).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew L. Nalven whose telephone number is 571 272 3839. The examiner can normally be reached on Monday - Thursday 8-6, Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on 571 272 3811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrew Nalven